

Application No.: 09/725,354
Amendment dated: September 8, 2003
Reply to Office action of April 7, 2003

This listing of claims will replace all prior versions and listings of claims in this application:

b.) Listing of Claims

1. (currently amended) A mass transported alignment mark system, comprising:
a substrate that has been subjected to a mass transport process; and
a lens alignment structure formed on the substrate that yields a light pattern
when the substrate or a plane near the substrate is imaged;
a metal layer that is aligned to the light pattern from the lens structure.
2. (original) An alignment mark system as claimed in claim 1, wherein the substrate is gallium phosphide.
3. (original) An alignment mark system as claimed in claim 1, wherein the substrate is silicon.
4. (cancelled) ~~An alignment mark system as claimed in claim 1, further comprising a metal layer that is aligned to the light pattern from the lens structure.~~
5. (currently amended) An alignment mark system as claimed in claim 4 1, wherein the metal layer is used in a metal bonding process.
6. (original) An alignment mark system as claimed in claim 5, wherein the metal layer comprises alignment marks that are used the metal bonding process.
7. (currently amended) An alignment mark system as claimed in claim 4 1, wherein the metal layer is used in a solder bonding process.
8. (original) An alignment mark system as claimed in claim 7, wherein the metal layer comprises alignment marks that are aligned to the light pattern.

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9. (original) An alignment mark system as claimed in claim 1, wherein the lens alignment structure comprises a concave lens.
10. (original) An alignment mark system as claimed in claim 1, wherein the lens alignment structure comprises a cylindrical lens.
11. (original) An alignment mark system as claimed in claim 1, wherein the lens alignment structure comprises a concave cylindrical lens.
12. (original) An alignment mark system as claimed in claim 1, wherein the lens alignment structure comprises multiple concave cylindrical lenses.
13. (currently amended) A mass transported alignment mark system, comprising:
a substrate that has been subjected to a mass transport process; and
a lens alignment structure formed on the substrate that yields a light pattern
when the substrate or a plane near the substrate is imaged;
~~An alignment mark system as claimed in claim 1,~~ wherein the lens alignment structure comprises multiple concave cylindrical lenses, as least two of the cylindrical lenses being arranged orthogonally with respect to each other.
14. (currently amended) An alignment mark system, comprising:
a substrate; and
a lens alignment structure formed in the substrate that has a focal point in the substrate or near a surface of the substrate; and
a metal layer that is aligned to a light pattern from the lens structure.
15. (currently amended) An alignment mark system as claimed in claim 14, wherein the substrate is gallium phosphide.
16. (currently amended) An alignment mark system as claimed in claim 14, wherein the substrate is silicon.
17. (cancelled) ~~An alignment mark system as claimed in claim 14, further comprising a metal layer that is aligned to the light pattern from the lens structure.~~

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18. (currently amended) An alignment mark system as claimed in claim ~~17~~ 14, wherein the metal layer is used in a metal bonding process.

19. (currently amended) An alignment ~~mark~~ system as claimed in claim 18, wherein the metal layer comprises alignment marks that are aligned to the an alignment feature generated by the lens alignment structure.

20. (currently amended) An alignment ~~mark~~ system as claimed in claim ~~17~~ 14, wherein the metal layer is used in a solder bonding process.

21. (currently amended) An alignment ~~mark~~ system as claimed in claim 20, wherein the metal layer comprises alignment marks that are aligned to the an alignment feature generated by the lens alignment structure.

22. (currently amended) An alignment mark system as claimed in claim 14, wherein the lens alignment structure comprises a concave lens.

23. (currently amended) An alignment mark system as claimed in claim 14, wherein the lens alignment structure comprises a cylindrical lens.

24. (currently amended) An alignment mark system as claimed in claim 14, wherein the lens alignment structure comprises a concave cylindrical lens.

25. (currently amended) An alignment ~~mark~~ system as claimed in claim 14, wherein the lens alignment structure comprises multiple concave cylindrical lenses.

26. (currently amended) An alignment system, comprising:

a substrate; and

a lens alignment structure formed in the substrate that has a focal point in the substrate or near a surface of the substrate; and

An alignment mark system as claimed in claim 14, wherein the lens alignment structure comprises multiple concave cylindrical lenses, as least two of the cylindrical lenses being arranged orthogonally with respect to each other.